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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,234	01/20/2004	Haomin Jin	1213.43404X00	7207

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EXAMINER

AMINI, JAVID A

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,234

Applicant(s)

JIN ET AL.

Examiner

Javid A. Amini

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/13/2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byong Mok Oh; Max Chen; Julie Dorsey; Fredo Durand; with a title of "Image-Based Modeling and Photo Editing", hereinafter refers as **Byong**, and further in view of Volume 29, Issue 4 (December 1997) Pages: 325 – 365, Year of Publication: 1997 ISSN:0360-0300, title of "Texture mapping 3D models of real-world scenes", Frederick M. Weinhaus; Venkat Devarajan, hereinafter refers as **Frederick**.

Claim 1

Byong in figs. 1, 6, 7 and 8 illustrates "a map generation device, comprising: an image appointment unit that receives user appointment of at least one position in a building existing within an aerial photograph to designate the at least one position as part of a building region".

Byong on page 433 under abstract presents an image-based modeling and editing system that takes a single photo as input, and represent a scene as a layered collection of depth images, where each pixel encodes both color and depth, see following step of the claim: a polygon

Art Unit: 2628

extraction [Byong on page 433 under the subject of introduction teaches, which many real-world objects, such as trees or people, have complex shapes that cannot easily be described by the polygonal representations commonly used in computer graphics] unit that extracts at least one pixel from pixels within the building region based on a result of discriminating a color of the pixels [Byong on page 435, left column paragraphs 4-5 teaches layer depth images (LDIs) may be better suited for rendering, but our representation is more amenable to editing, where it nicely organizes the scene into different higher-level entities. Additional channels, such as texture, illuminance, and normal (normals are computed for each pixel using the depth of the 4 neighboring pixels), may be used for specific applications (relighting in particular)] around the building region to compare whether the pixels are within a gray-level variance of a predetermined discrimination threshold, [Byong on page 437 section 3.4 at second paragraph teaches comparing whether the pixels are within predetermined areas] sets the building region to include extracted pixels as a portion of an extracted building region, and repeats the extract and set operations to expand the extracted building region with more extracted pixels, and then extracts a polygon fine of the extracted building region. *Byong in fig. 1a shows an image segmented into layers (boundaries in red), that the boundaries in red do not show in black and white colors. Byong on page 437 left column, first paragraph teaches in practice, the contact drawn by the user is represented as a polyline, the corresponding vertical polygons are rendered using OpenGL (corresponds to a vector generation unit), and the z-buffer is read to update the selected pixels.*

Byong does not explicitly specify a vector generation unit that generates a vector of the polygon line of the extracted building region. However, Frederick in figures 8 and 9 show

examples a vector generation unit that generates a vector of the polygon line of the extracted building region.

Thus, it would have been obvious to one who has ordinary skill in the art when the time the invention was made to incorporate the teaching of Frederick into Byong, because, Frederick teaches in fig. 8 clearly an image perspective transformation for an urban and rural area, respectively produced by a system using the polygon representation for the terrain elevation model and the cultural objects, and Byong teaches designing a new building in an existing context, changing the layout and lighting of a room, designing a virtual TV set from a real location, or producing special effects. The major advantages of image-based representations are their ability to represent arbitrary geometry, and the system can be used without any editing.

Claim 2.

The rejection for claim 2 is similar to the rejection of claim 1, however, the claim discloses that the polygon extraction unit based on a result of discriminating a similarity between a color of the pixels in the region, and Byong uses a parameterization optimization method, see page 437 under section 4.1.

Claim 3.

Byong under abstract teaches that the system enables editing from different viewpoints, extracting and grouping of image-based objects, and modifying the shape, color, and illumination of these objects.

Claim 4.

Byong in fig. 9c illustrates the colors of the plurality of pixels extracted from the predetermined region including the at least one position.

Art Unit: 2628

Claim 5.

Byong on page 437 under section 3.4 teaches a similar method for the polygon extraction unit extracts pixels largely different in color from adjacent pixels as edge pixels, determines boundary lines based on the edge.

Claim 6.

Byong on page 441 section 6.2 teaches the rotation of objects are possible.

Claim 7.

Byong on page 440 section 5.2 teaches the depth correction.

Claim 8.

Byong in fig. 1a illustrates the claim limitation.

Claim 9.

The step of claim 9 is obvious because the integration unit integrates the building region by a plurality of inputted positions. Byong on page 437 section 3.4 teaches the limitation.

Claims 10 and 11.

Byong in fig. 1a clearly illustrates the limitations.

Claim 12.

The rejection of claim 1 applies to the rejection of claim 12.

Claim 13.

Byong in fig. 1a clearly illustrates the limitations. Byong on page 437 under section 3.4 teaches a similar method for extracting a line around the building.

Claim 14.

Byong on page 440 section 5.2 teaches the depth correction.

Art Unit: 2628

Claim 15.

Byong on page 441 section 6.2 teaches the rotation of objects is possible.

Claim 16.

Byong on page 440 section 5.2 teaches the depth correction.

Claim 17.

Byong in fig. 1a clearly illustrates the limitations.

Claim 18.

Byong in fig. 12a illustrates the claim limitation.

Claim 19.

The rejection is similar to the rejection of claim 1. However, Byong on page 437 section 3.3 teaches the user can use the assigned depth as a reference point.

Claim 20.

Byong on page 437 left column at third paragraph teaches an automatic version that processes the whole selection or layer at once. It assumes that the layer or selection is in contact with the ground reference at its lowest pixels. Each column of pixels in the reference image is assigned the depth corresponding to its lowest visible or selected pixel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Javid A Amini
Examiner
Art Unit 2628

J.A.



KEE M. TUNG
SUPERVISORY PATENT EXAMINER